

D.P.U./D.T.E. 96-AD-2

Adjudicatory hearing in the matter of the complaint of Thomas P. Andrews relative to the rates and charges for electricity provided by Commonwealth Electric Company.

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APPEARANCES: Thomas P. Andrews

Pelican Marsh

2375 Mont Claire Drive

Unit 101

Naples, Florida 34109

PRO SE

Complainant

John Cope-Flanagan, Esq.

COM/Energy Services Company

One Main Street

P.O. Box 9150

Cambridge, Massachusetts 02142-9150 FOR: COMMONWEALTH ELECTRIC  
COMPANY

Respondent

I. INTRODUCTION

On July 21, 1993, an informal hearing was held before the Consumer Division of the Department of Public Utilities, now the Department of Telecommunications and Energy ("Department") on the complaint of Thomas P. Andrews ("Complainant") relative to rates and charges for electricity sold by Commonwealth Electric Company ("Company"). Both the Complainant and the Company were dissatisfied with the resolution of the dispute and requested an adjudicatory hearing before the Department pursuant to 220 C.M.R. § 25.02(4)(c). The matter was docketed as D.P.U. 96-AD-2.

Pursuant to notice duly issued, an adjudicatory hearing was held on April 11, 1997, at the Department's offices in Boston, in conformance with the Department's Regulations on Billing and Termination Procedures, 220 C.M.R. §§ 25.00 et seq. The Complainant testified on his own behalf. The Company sponsored the testimony of Ellen Ingram, an investigatory specialist for the Company's revenue protection department. The evidentiary record consists of 39 exhibits from the Complainant and 27 exhibits from the Company. In addition, the record consists of six responses by the Company to Department post-hearing record requests and the replies by the Complainant to the Company's responses.

II. SUMMARY OF ISSUES

The Complainant disputes \$4,337.57 billed to his account by the Company for alleged unmetered use from June 6, 1988, to March 7, 1991 (Tr. at 6-7, 30-32). The Complainant asserts that he is not responsible for this amount because the unmetered usage resulted from the Company's negligent failure to discover, in a timely manner, that his electric meter was not operating properly (Tr. at 7). Further, the Complainant disputes the method used to calculate the estimated amount of unmetered usage (id. at 6-7).

The Company contends that the Complainant is responsible for payment of \$4,337.57, which represents the difference between the electricity for which the Complainant was billed and the estimated amount of electricity which the Complainant consumed (id. at 32). The Company also contends that there was evidence of meter tampering (id. at 21).

III. SUMMARY OF FACTS

### A. The Complainant

The Complainant stated that he owned a single-family home at 324 Main Street,

West Brewster, Massachusetts, which he used during the period in question as a summer residence, three to four months each year (id. at 117).<sup>(1)</sup> The Complainant described the property as including a kitchen, living room, three bedrooms, two bathrooms, foyer, deck, hot tub, and swimming pool (Exhs. CMPL-15-F, CMPL-16; Tr. at 113). The property had electric heat during the time period in question (Exhs. CMPL-15-F, CMPL-16; Tr. at 113). The Complainant asserted that the Company provided a defective meter to measure electric consumption at this summer residence (Tr. at 96). According to the Complainant, the Company failed to maintain or replace the meter although the Company was or should have been aware of the meter's defective performance (id. at 6-7, 96). The Complainant contended that the Company should have known about the defective meter because the meter recorded negative and zero meter readings two years prior to removal of the meter in March 1991 (id. at 96). Specifically, the Complainant stated that his electric bills of January 16, 1989, February 16, 1989, March 10, 1989, and May 11, 1989, indicate that the energy meter registered negative consumption in January 1989, no consumption in April 1989, and negative consumption again in May 1989 (id. at 97; Exhs. CMPL-D1, CMPL-D3, CMPL-D4, CMPL-D5, CMPL-D6). The Complainant stated that the Company should have been alerted by these readings that the meter was defective (Tr. at 98). The Complainant stated that although he used minimal electricity in non-summer months, his usage could not have been negative or zero (id.).

The Complainant asserted that there was no meter tampering as asserted by the Company because the seal on the meter lock was intact; he claimed that the only way of removing the meter was by breaking and destroying the seal on the meter lock (id. at 103). The Complainant suggested that the defective meter was a result of a combination of normal wear and tear and the Company's lack of proper maintenance (id. at 101-104). The Complainant further suggested that the scratches and other evidence of tampering the Company found on the back plate of the meter was the result of damage in transit from his home to the Company testing facility (id. at 104).

The Complainant raised concerns regarding the method the Company used to calculate the Complainant's unmetered usage (id. at 6-7). The Complainant questioned whether the number of square feet in the home used by the Company to perform its heat loss study included unheated areas such as a deck, an outbuilding containing a swimming pool pump, and an outside entryway (id. at 67-69). The Complainant argued that, rather than using a heat loss study, the Company should estimate his electric power consumption based upon average monthly usage after March 7, 1991, the date the meter was replaced (id. at 108). The Complainant stated that such an average usage estimate should be used to determine the amount of electric power used, because it is based on actual usage figures from the new, accurate meter (id.). The Complainant introduced into evidence an estimate by the Company of the Complainant's average monthly usage for the period of March 1991 through March 1994, which indicated that his unmetered usage was 12,519.87 kilowatthours ("KWH") and that the Complainant should be billed \$1,317.79

for the 33-month period of unmetered use from June 1988 through March 1991 (Exh. CMPL-A).

## B. The Company

The Company testified it first became aware that the Complainant's meter might not be registering usage accurately during a regularly scheduled meter read on March 7, 1991 (Tr.

at 9). The Company stated that the meter reader observed that although the meter disk was spinning, there had been no advance on the dials, signifying that the meter was not recording usage (id.). The Company testified that later the same day a meter installer followed up on the observations made by the meter reader, discovered the meter's gears did not mesh properly, and replaced the meter (id. at 11). The Company stated that it removed the old meter and tested it at the Company's central testing facility in Plymouth on March 27, 1991 (id. at 9-12, 15, 19). The Company stated that the results of the meter test on full load were 100.08 percent and on light load were 99.88 percent, within the tolerances provided by law (Exh. CE-3; Tr. at 16). The Company explained that in the short time necessary to test the meter, the gears were engaged, and therefore the meter tested accurately (Tr. at 17-18). However, the Company further explained that when the Company conducted a time test comparison, the meter did not record accurately over time (Exh. CE-6; Tr. at 21).

The Company stated that it first time-tested the Complainant's meter with a comparison meter, known to be accurate, at five amps for six hours and 51 minutes (Exh. CE-6; Tr. at 19). The Company explained that the result on the Complainant's meter was zero KWH, and the result on the comparison meter was eight KWH (Exh. CE-6; Tr. at 19). The Company stated that it conducted a second test which involved a different comparison meter at five amps for 18 hours, and at 30 amps for six hours and 40 minutes (Exh. CE-6; Tr. at 19). The Company stated that the results at five amps were three KWH for Complainant's meter and 22 KWH for the comparison meter; at 30 amps, seven KWH for Complainant's meter and 48 KWH for the comparison meter (Exh. CE-6; Tr. at 19).

Further, the Company explained that a visual examination at the Company's meter lab indicated that one of the five shaft holes on the back plate of the register of the meter was altered (Tr. at 21). The Company explained that, as a result, the adjoining gears in the register would not always mesh, leading to a reduction in registration or no registration of consumption (id.; Exhs. CE-9, CE-10, CE-11, CE-12, CE-13).<sup>(2)</sup>

The Company stated that it was not alerted to a possible problem with the meter from the negative and zero readings referred to by the Complainant because occasionally meter readers make mistakes and read meters incorrectly (Tr. at 90-91).

The Company contended that the Complainant was incorrectly billed \$461.43 for 3,013 KWH for the period beginning June 6, 1988, the date of service turn-on, through March 7, 1991, the date of the meter replacement (id. at 30-31). The Company contended

that the meter was defective this entire time because the meter registered only 3,013 KWH of usage during this period (*id.*). The Company's stated that this amount of usage was "unrealistically" low for an electrically heated home, even one that is only occupied seasonally (*id.* at 31). The Company asserts that the usage on the hot water meter exceeded the usage on the meter in question each month until the meter was replaced in March, 1991, and that this information supports the conclusion that the meter was defective from the service turn-on (*id.*). The Company stated that the Complainant should have been billed \$4,799.00 for 47,955 KWH (Tr. at 32). Therefore, the Company contends that the Complainant is responsible for paying the difference, \$4,337.57, for 44,942 KWH of unmetered usage (*id.*).

The Company stated that it derived the estimated usage of 47,955 KWH from a heat loss study (*id.* at 33). The Company explained that the heat loss study utilizes a formula that estimates annual KWH electric consumption to operate a heating system by taking into consideration the age of the home, square footage of the home, and other factors specific to the area such as degree-day information and design temperatures (*id.*). The Company believes that the use of a heat loss study in this case is a better measure of usage than an average usage estimate (*id.* at 48-49). According to the Company, this is because the Complainant did not reside at the premises before the time period at issue, therefore, there is no previous time period available for measurement (Tr. at 48). Further, the Company asserted that the Complainant deliberately reduced his consumption of electricity following replacement of the meter, therefore, an accurate usage estimate should not be based on the time period after the meter's exchange (*id.*). The Company stated that after the meter was exchanged, the Complainant's water heater meter and electric meter both showed minimal or zero usage consistently throughout the winter months of 1991, 1992 and 1993, indicating that the Complainant shut off both the water heater and the electric heat (*id.*). Moreover, the Company noted that the Complainant's electric consumption for the first month following the meter exchange was significantly higher than in the previous months, and then decreased in the following months (*id.* at 48-51; Exhs. CE-23, CE-24). The Company testified that, while the figure for total square footage used to perform the heat loss study originally included unheated areas of the Complainant's premises, that figure was later replaced with a corrected figure which excluded unheated areas, and was used to calculate the final amount the Company contends is due (Tr. at 118-119).

At the Department's request, the Company prepared an average monthly usage estimate based on the one-year period from March 1991 through March 1992, indicating the Complainant's unmetered usage was 22,112 KWH, at a cost to the Complainant of \$2,224.15 (DPU-RR-2B).

#### IV. STANDARD OF REVIEW

In order for a company to recover revenues lost due to unmetered use, the company must establish that the customer actually consumed electricity for which that customer was not charged and justify the method used to calculate the unmetered use for which it seeks reimbursement. Milano v. Massachusetts Electric Company, D.P.U. 19824 (1980); see

Doiron v. Massachusetts Electric Company, D.P.U. 84-86-54 (1985). In addition, the Department has determined that a company must also discover and remedy a faulty meter within a reasonable time to recover revenues lost due to unmetered use. Boston Gas Company v. Muglia, D.P.U. 1389 (1985).

The Milano case sets out the first two parts of the test for establishing unmetered use. To satisfy the first part of the test, the company must show that the condition of the meter was such that it would not correctly register use, that the operation of the faulty meter resulted in unmetered use and that the customer therefore consumed electricity for which he was not charged. Milano, D.P.U. 19824, at 4; Blau v. Boston Edison Company, D.P.U. 1521 (1984). The second part of the test requires the company to demonstrate when the unmetered use began and the amount and relative cost of this use. Milano, D.P.U. 19824, at 5; Camiola v. Massachusetts Electric Company, D.P.U. 1419 (1984). The Department has found that the fairest and most representative time period used to calculate the average daily KWH usage should be an entire year. DeRosa v. Eastern Edison Company, D.P.U. 312, at 3 (1983); Tascano v. Massachusetts Electric Company, D.P.U. 20062, at 6 (1979).

With respect to the remaining element, that a company must discover and remedy a faulty meter within a reasonable time, the Department must determine whether the company satisfied its obligation to take regular readings. Department regulations require that actual readings be taken at least every other billing period. Billing and Termination Procedures of the Department of Public Utilities, 220 C.M.R. § 25.01. These regulations were promulgated to prevent a utility from issuing large bills to a customer when an actual reading is taken after many months of estimates, and to promote the discovery of faulty meters as early as possible. Muglia, D.P.U. 1389; Boston Gas Company v. Picariello, D.P.U. 19852 (1980). Failure to discover and remedy a faulty meter within a reasonable amount of time in circumstances where the company should have investigated and discovered the problem (e.g., zero readings, disproportionately low readings, negative readings, fluctuations beyond a standard range, obvious damage to the meter, or other "warning signals" to indicate a suspicious situation) is a violation of Department regulations. Muglia, D.P.U. 1389, at 7-8; Camiola, D.P.U. 1419, at 5; see DeFilippi, D.P.U. 54, at 4 (1980); DeAngelis, D.P.U. 1587, at 9 (1987). If the company has not met its obligations, the Department has the option of ordering an abatement for the period of unmetered use or instituting a payment plan. See Boston Edison Company v. Daly, D.P.U. 1188 (1983) (both partial abatement and payment plan ordered).

## V. ANALYSIS AND FINDINGS

The issues to be determined are: (1) whether the Company proved unmetered usage; (2) what method should be used to calculate unmetered usage and for what time period; and (3) whether the Company discovered a problem with the meter within a reasonable time,

that is, should the Company have suspected and discovered a problem with the meter prior to March 7, 1991.

The first part of the Milano test requires the Company to show that the meter was in such condition that it would not register correct usage and the Complainant consumed electricity for which he was not charged. The Company indicated that the condition of the meter was such that it would not correctly register use (Tr. at 16; Exh. CE-9-13). On

March 7, 1991, the meter reader indicated that the gears on the meter were not properly engaged (Tr. at 11, 15). At the Company's meter laboratory, time test comparisons showed that the meter did not record properly over time (id. at 18, 21). A further examination of the meter credibly demonstrated that one of the five shaft holes on the back of the meter was altered, leading to a reduction in registration or no registration at all (id. at 21). The Department finds that the Company proved that unmetered usage occurred; therefore, the Company has satisfied the first part of the Milano test.

The second part of the Milano test requires the Company to demonstrate when the unmetered use began and the amount and relative cost of this use. The Department finds that the Company demonstrated that unmetered use began on June 6, 1988, the date service began to the Complainant. The Department so finds. It does so based on the incredibly low usage for an electrically heated house and the on fact that the hot water heater usage exceeded the electric power meter usage every month until the meter was exchanged (Tr. at 30-31). The Department also finds that the unmetered usage ended on March 7, 1991, the date of the meter exchange. The Complainant does not dispute that a defective energy meter was in use at his residence during this period (Tr. at 95, 108). Although the record is suggestive, its ambiguity does not permit a conclusive determination of the source of the defect. In any event, we are not likely to see this Complainant before us again on a similar set of facts and so we can leave the question unresolved.

The Department has held that unmetered usage should be determined by a customer's use over a test period; furthermore, the Department has found that the fairest and most representative method used to calculate the average daily KWH usage should be an average taken over a period of time which is representative of an entire year. DeRosa, D.P.U. 312,

at 3; Tascano, D.P.U. 20062, at 6. However, a reasonable surrogate method of calculating use may, if properly proven, be relied upon. Phillips v. Boston Gas Company, D.P.U. 86-AD-28 (1994). Such surrogate methods have been used in cases where, due to metering failures, no reliable representative time periods existed to use in estimating purposes. DeGutis v. Commonwealth Electric Company, D.P.U. 88-AD-15 (1995); Van Gelder v. Boston Gas Company, D.P.U. 87-AD-21 (1993); Picariello v. Boston Gas Company, D.P.U. 19852 (1982) (unmetered gas use estimated by degree day method). In this case, the Company estimated the relative cost of the unmetered use by using a heat loss study. The heat loss study is designed to take into account environmental factors, degree days, and the type and condition of the structure in order to develop an accurate estimate of the amount of electricity a house will consume. The Company contends that, in this case, the heat loss study is a more accurate measurement of estimated use than an analysis of average use by the customer, as there is no record of usage prior to the time in dispute

and, referring to the Complainant's billing history following the meter exchange, the Company contends that the Complainant deliberately reduced his electric consumption following the meter exchange. The Company's heat loss study indicates that the Complainant's unmetered use during the 33-month period in question was 44,942 KWH and that the Complainant should be billed \$4,337.57 for this use. However, the Complainant offered an estimate prepared by the Company of his average monthly usage based on a three-year period (March 1991 to March 1994), indicating his unmetered usage was 12,519.87 KWH for the 33-month period, and that he should be billed \$1,317.79 (Exh. CMPL-A). Finally, an estimate of Complainant's usage, prepared by the Company at the Department's request, based on a one-year period (March 1991 to March 1992) indicates that his unmetered usage was 22,112 KWH for the 33-month period, and that he should be billed \$2,224.15 (DPU-RR-2B).

The Department shares the Complainant's questions concerning the data used by the Company to perform the heat loss study. For instance, corrections in the Company's heat loss study calculations took place only when the Complainant drew to the Company's attention the fact that the original calculation was based on a figure for square footage which included improved but unheated outside areas of the Complainant's premises, such as an outside deck (Tr. at 119). Also, the heat loss study formula includes a conversion factor, designated an "experience factor," which is intended to take into account variables including the type of usage the dwelling undergoes (Exh. CE-17, at 2). In this case, the experience factor used by the Company reflects an assumption that there is three-quarters of a complete air exchange per hour in the Complainant's home (Exhs. CE-14, CE-17, at 2). This item does not take into account the fact that the house in question was used for a vacation home and evidently was vacant most of the year. The type and amount of usage the house receives is an important variable in determining the experience factor to be applied (Exh. CE-17). The Company used an experience factor more appropriate for a normal usage residential premises despite the fact that the Company acknowledged that it was aware the house was occupied only two to four months out of the year (Tr. at 119).

While heat loss studies may, in principle, be a valid means for estimating unmetered energy use, the Company has not shown that the study in this particular case was performed with sufficient attention to the particular conditions at the Complainant's premises. The Department finds the method the Company used to select and justify the experience factor used in performing the heat loss study was insufficient. Without justification for the specific means by which the heat loss study was performed in this case, the Department finds that the validity of the heat loss study has not been properly proven in the circumstances here, and the results of the study cannot be accepted as the basis for this Order.

However, estimates based on average usage are a reliable and commonly used method for estimating the amount of unmetered usage. The three-year average prepared by the Company and offered by the Complainant calculates the period March 1991 (the date of installation of the new meter) through March 1994, demonstrating an average unmetered usage of 379.39 KWH per month resulting in a total bill of \$1,317.79 for the unmetered period. The one-year average prepared by the Company at the Department's request,



calculates the period beginning March 1991 through March 1992, demonstrating an average unmetered usage of 670.06 KWH per month resulting in a total bill of \$2,224.15 for the unmetered period.

The Department finds that the one-year average prepared by the Company represents a reliable representative time period in this case. See DeRosa, D.P.U. 312; Mavilio v. Massachusetts Electric, D.P.U. 91-AD-4 (1993); Tascano, D.P.U. 22062. In DeRosa, the Department held that a usage estimate is more fairly and accurately calculated with a full year's data, as it is more representative of normal use. D.P.U. 312, at 3. Likewise, in Mavilio, the Department held that using a twelve-month period upon which to base a usage estimate was "the best time period to use to calculate unmetered use charges." D.P.U. 91-AD-4, at 14. Therefore, the Complainant will be required to recompense the Company for unmetered usage from June 1988 through March 1991, based on the Complainant's average usage for the period March 1991 through March 1992, for a total bill of \$2,224.15 for the unmetered period, subject to the abatement discussed below.

Finally, to recover for revenues lost during unmetered use, the Company also must show that it met its obligation to discover and remedy a faulty meter within a reasonable time. Muglia, D.P.U. 1389. The Company states that it first became aware of a problem with the electric meter on March 7, 1991. However, Company bills rendered to the Complainant indicate that the meter recorded negative consumption in January 1989, zero consumption in April 1989, and negative consumption again in May 1989 (Exhs. CMPL-D1, CMPL-D3, CMPL-D4, CMPL-D5, CMPL-D6). The Company explained that it was not unusual to see several bills rendered to a customer with zero or negative readings due to human error on the part of the meter reader (Tr. at 78, 90-91). This is, to put it mildly, a peculiar line of defense. It is unpersuasive now and unlikely to be persuasive in the future. In fact, it calls out for a better management of metering practices to avoid such disputes in the future -- or at least to keep their dollar value lower. The Department questions the Company's failure to respond to a pattern of negative readings and readings that were, by the Company's own admission, unusually low. The Department finds that the Company should have known there was a problem with the Complainant's meter at the very latest in May 1989, following the second negative reading. The Department further finds that it was not reasonable for the Company to wait almost two years from the time it should have known of a problem to investigate and replace the Complainant's meter. It smacks of inattention to the details of its business. In this case, the Company's failure to send accurate price signals for an extended period of time resulted in direct pecuniary injury to the Complainant, as he was unable to budget expenses properly and conserve his use. See Muglia, D.P.U. 1389, at 9. Therefore, the Department orders the Company to abate in full all charges due and owing from the Complainant for the period May 9, 1989, through March 7, 1991, the date of the meter's exchange, for a total abatement of \$1,587.31.

Thus, the Complainant is required to pay the balance, \$636.84, to Commonwealth Electric Company for unmetered energy usage from June 6, 1988 through March 7, 1991. The Complainant may pay the outstanding balance in a lump sum or at the rate of

\$100.00 per month until such outstanding balance is fully paid. The lump sum or the first payment is due thirty days following the issuance of this order.

VI. ORDER

Accordingly, after due notice, hearing and consideration, it is

ORDERED: That Thomas P. Andrews pay to Commonwealth Electric Company \$636.84 for unmetered electricity usage from June 6, 1988 through March 7, 1991.

Thomas P. Andrews may pay the outstanding balance in a lump sum or at the rate of \$100.00 per month until such outstanding balance is fully paid. The lump sum or the first payment is due thirty days following the issuance of this order.

By Order of the Department,

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James Connelly, Chairman

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W. Robert Keating, Commissioner

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Paul B. Vasington, Commissioner

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Eugene J. Sullivan, Jr., Commissioner

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Deirdre K. Manning, Commissioner

Appeal as to matters of law from any final decision, order or ruling of the Commission may be taken to the Supreme Judicial Court by an aggrieved party in interest by the filing of a written petition praying that the Order of the Commission be modified or set aside in whole or in part.

Such petition for appeal shall be filed with the Secretary of the Commission within twenty days after the date of service of the decision, order or ruling of the Commission, or within such further time as the Commission may allow upon request filed prior to the expiration of twenty days after the date of service of said decision, order or ruling. Within ten days after such petition has been filed, the appealing party shall enter the appeal in the Supreme Judicial Court sitting in Suffolk County by filing a copy thereof with the clerk of said Court. (Sec. 5, Chapter 25, G.L. Ter. Ed., as most recently amended by Chapter 485 of the Acts of 1971).

1. On October 16, 2000, the Department received notice from the Complainant that he sold the property located at 324 Main Street in Brewster.

2. The Company introduced into evidence Exhibits CE-9 through CE-13, consisting of photographs of the meter, indicating damage on the back plate of the register.